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Short Communication

A report on the foraminifera *Trochammina inflata* (Montagu, 1808) from East Kolkata wetlands

J. Chitra*

Soil Zoology Section, Zoological Survey of India, Kolkata – 700053, West Bengal, India; chitrajayapalan@gmail.com

Abstract

East Kolkata wetlands are one of the Ramsar site situated in West Bengal. Reports on microscopic fauna of these wetlands are meager. These wetlands are surrounded by vast agricultural fields and Sewage fed Aquaculture farming in natural and artificial ponds and lakes for fisheries are highly significant. The present record is from the zoo plankton collection from the ponds of Dhapa in East Kolkata wetland, a species of foraminifera recorded from the pond water of the East Kolkata wetlands. *Trochammina inflata* (Montagu, 1808) was recorded for the first time in East Kolkata wetlands.

Keywords: East Kolkata Wetland, Foraminifera, *Trochammina inflata*

Introduction

Foraminifera are tiny organisms found in all the marine ecosystem viz., mudflats, sea grass association, mangroves, intertidal zones, estuaries, lagoons, islands, beach sand and deep sea. Foramaniferans were also recorded from riverine beds, cretaceous rocks, intertidal zone of marine systems, hills as fossil forms (Gupta, 1972; Ramarao, 1957; Nigam *et al*., 2004; Devi and Rajashekhar, 2008). Their occurrence was recorded based on the physicochemical factor, nutrition, food chain, predation of waters (Be and Hutson, 1977). Among foraminifera especially the family Trochamminidae was recorded in east coast and west coast of India. The distribution of Trochammina genus has been reported from few areas of East coast of India viz., in West Bengal. *Trochammina inflata* (Montagu, 1808) was recorded from Midnapore coast and Sundarban Mangroves (Dey *et al.*, 2012; Ghosh, 2014). Woo *et al.* (1997) and Goldstein and Watkins, (1998) also reported *Trochammina* species in marine environments especially in the mangroves, saltmarshes and in mudflats.

Earlier works on free living protozoa from India were initiated by Naidu (1966); Mahajan (1971) and Nair *et al.* (1971). Several works by *Das et al.* (1993; 1995; 2000; 2003; 2004), Bindu (2008; 2010) and Bindu and Das (2010) were explored from India. Earlier Nair *et al.* (1971), Das (1993), Chattopadhyay and Das (2003), Bindu (2008) and Bindu *et al.*, (2014) and Chitra (2014) investigated on protozoa fauna from various districts of West Bengal. Ghosh *et al.* (2014) investigated agglutinated and calcareous foraminifera associated with mangroves and recorded *Trochammina inflata*, *Miliammina fusca* and *Haplophragmoides canarienses*, *Ammonia beccarii*, *Haynesina germanica*, *Rosalina bradyi* and *Elphidium* sp. Ghosh (2014) recorded 44 species from the coastal stretch of Midnapore district in West Bengal. Dey *et al.*, (2012) reported 25 genera of foraminiferans in various depths of the sediments in Sundarban Mangrove ecosystem. East Kolkata wetlands are 100km away from Bay of Bengal with Sundarban Mangroves and but they have substantial saline marshes and meadows. This investigation on zooplankton of east kolkata wetland, a Ramsar Site revealed the presence of *Trochammina* for the first time from the locality.

Material and Methods

East Kolkata Wetlands are the Ramsar site situated in the eastern fringes of Kolkata (latitude 22° 32'46N and 88° 27'00'E at West Bengal. Freshwater and low saline ponds, lakes, tanks of natural and artificial water bodies, sewage fed fisheries

* *Author for correspondence*

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ponds, Salt marshes, sewage canals were the few habitats found in the area of East Kolkata wetlands. The locality Dhapa chosen for the investigation on zooplankton from the water bodies where industrial areas like sewage treatment plants, the city of domestic wastes or the sewage load is being treated in manufacturing organic manures for agriculture are present around the location. The site was heavily polluted due to the sewage treatment plants. The seasonal surveys were conducted from April 2015 to April 2016.

The zooplankton samples were collected by administered the plankton net of mesh size 50 µm. The collection was made on the surface water by filtering 100 Liters of water and the aliquot of samples were made up to 100 ml with 4% formalin. Further the Zooplankton samples were observed under Leica DM 1000 at magnification up to 1000x. The foraminifera were observed in the sample collected from a pond (N 22° 32.675; E 88° 26.765). Further the specimen was identified up to species level (Galloway and James, 1933; Cushman and Joseph, 1933; Postuma, 1971; Hayward, 2019).

Results

During the investigation the forminifera encountered in the study as follows:

Phylum	FORAMINIFERA Loeblich and Tappan (1964)
Class	GLOBOTHALAMEA PAWLOWSKI, Holzmann and Tyszka, 2013
Order	LITUOLIDA Lanckester, 1885
Family	TROCHAMMINIDAE Schwager, 1877
Sub Family	TROCHAMMININAE Schwager, 1877
Genus	***Trochammina*** Parker and Jones, 1859
Species	***Trochammina inflata*** Montagu, 1808

Material examined: lot No. ; 1 ex, East Kolkata Wetland, Dhapa, Dist. Kolkata, West Bengal; 7. xi. 2015, Coll: Chitra J; Figure 1.

Measurement: 62 µm diameter.

Habitat: Generally benthic associated with Mangroves, Coastal sediments, brackish water and Marine waters. It belongs to Arenaceous category.

Distribution: West Bengal (Midnapore coastal belt, Sundarban mangroves, Digha coast), Tamilnadu (Palk Strait, Mandapam) from East coast of India.

Figure 1. *Trochammina inflata* (Montagu, 1808).

Discussion

The reported foraminifera *Trochammina inflata* (Montagu, 1808) from East Kolkata wetland, a ramsar site for the first time. Since the marshy vegetation and saline waters condition influences the habitat of euryhaline species in East Kolkata Wetlands. There are enormous studies on Foraminifera in mangroves, marine ecosystem as reported (Ghosh, 2014a; b; Sen and Bhadhury, 2017) in West Bengal. The present study showed the possibility on foraminfera occurrence and further to be focused in studies on microbenthos of East Kolkata wetland to reveal the total assemblages of foraminifera.

Conclusion

Since one species *Trochammina inflata* (Montagu, 1808) of foraminifera was observed from the East Kolkata Wetlands. Intense surveys on benthos will liberate large number of species which include foraminifera.

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